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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,744	11/15/2001	Jack M. Birnbaum	GIC-576	7576

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EXAMINER
PRICE, NATHAN E

ART UNIT	PAPER NUMBER
2194	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
	09/980,744	BIRNBAUM ET AL.
Office Action Summary	Examiner	Art Unit
	Nathan Price	2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 January 2006</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-30</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-30</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1 – 30 are pending.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 1 – 30 are rejected under 35 U.S.C. 102(b) as being anticipated by

Thrift et al. (Thrift, Philip and Todd Killian "JTV – Java-enabled Television.").

4.   As to claim 1, Thrift et al. disclose an apparatus for providing a software

architecture for implementing a television subscriber terminal, comprising:

a computer readable medium having computer program code means

(computer readable medium is inherent); and

means for executing said computer program code means to implement a

layered software architecture including (execution of computer program code is

inherent):

a first layer supporting hardware of the terminal (section 2 first full

paragraph lines 1 – 2);

a second layer comprising at least one device driver (section 2 first full

paragraph lines 1 – 2);

a third layer comprising an interface for the at least one device driver

(section 2 first full paragraph lines 1 – 3, there must be an interface to allow the

JVM to use the hardware);

a fourth layer comprising core system software for providing television

functions (section 2 first full paragraph lines 3 – 4);

said fourth layer also including a kernel abstraction function which,

together with said third layer, enables said core system software to operate in

different operating environments (section 2 first full paragraph lines 1 – 2);

a fifth layer for middleware porting (Figure 2 and section 3 paragraph 1);

an operating system kernel at said fourth and fifth layers (section 2 first full

paragraph lines 1 – 2); and

a sixth layer providing middleware to interface with at least one application

program (Figure 2; section 3 paragraph 1 and list).

5.   As to claim 2, the apparatus of claim 1 is rejected for the reasons above.

Thrift et al. also disclose that an operating environment comprises said

middleware, middleware porting (section 5 paragraph 1), and operating system

kernel (section 2 first full paragraph lines 1 – 2).

6.   As to claim 3, the apparatus of claim 1 is rejected for the reasons above.

Thrift et al. also disclose that an operating environment comprises said

middleware, middleware porting (section 5 paragraph 1), operating system

kernel, and device driver (section 2 first full paragraph lines 1 – 2).

7.   As to claim 4, the apparatus of claim 1 is rejected for the reasons above.

Thrift et al. also disclose that an operating environment comprises said

middleware, middleware porting (section 5 paragraph 1), operating system

kernel, device driver (section 2 first full paragraph lines 1 – 2), and application

program (section 5 paragraph 1).

8.   As to claim 5, the apparatus of claim 1 is rejected for the reasons above.

Thrift et al. also disclose that the television subscriber terminal receives television

signals via a broadband communication network (section 3 sentence 3).

9.   As to claim 6, the apparatus of claim 1 is rejected for the reasons above.

Thrift et al. also disclose that the television functions include at least one of:

message reception and distribution;

system information processing;

terminal configuration;

terminal control message processing;

service acquisition;

conditional access control;

download capability;

return path communication ("backchannel data transfer" section 2

item 6 in list); and

diagnostic data management.

10.   As to claim 7, the apparatus of claim 1 is rejected for the reasons above.

Thrift et al. also disclose that the television functions include conditional access

services, including at least one of:

object authentication;

object authorization (section 5 last paragraph);

resource authentication;

baseline privacy key exchange services; and

cryptographic functions.

11.   As to claim 8, the apparatus of claim 1 is rejected for the reasons above.

Thrift et al. also disclose that the kernel abstraction function provides kernel calls

and kernel-specific translations for the operating system kernel (section 2 first full

paragraph lines 1 – 2).

12.   As to claim 9, the apparatus of claim 1 is rejected for the reasons above.

Thrift et al. also disclose that the kernel abstraction function isolates the core

system software from portions of the operating system kernel that are specific to

an operating environment (section 2 first full paragraph lines 1 – 2).

13.   As to claim 10, the apparatus of claim 1 is rejected for the reasons above.

Thrift et al. also disclose that the interface for the at least one device driver

isolates the core system software from portions of the device driver that are

specific to an operating environment (section 2 first full paragraph lines 1 – 2).

14.   As to claim 11, the apparatus of claim 1 is rejected for the reasons above.

Thrift et al. also disclose that the operating system kernel provides

multithreading, real-time operating system support needed to operate the

terminal (section 2 first full paragraph lines 1 – 2).

15.   As to claim 12, the apparatus of claim 1 is rejected for the reasons above.

Thrift et al. also disclose that the operating system kernel provides facilities for

the terminal that are specific to an operating environment, including at least one

of: multi-tasking, inter-task communication, messaging, synchronization, memory

management, and event management (section 2 first full paragraph lines 1 – 2, it

is inherent that such an RTOS would provide some form of memory

management).

16.   As to claim 13, the apparatus of claim 1 is rejected for the reasons above.

Thrift et al. also disclose that the architecture further includes a software interface

between the core system software and the fifth layer that enables said core

system software to operate in the different operating environments (section 5

paragraph 1).

17.   As to claim 14, the apparatus of claim 13 is rejected for the reasons

above. Thrift et al. also disclose that the software interface isolates the core

system software from portions of the middleware and middleware porting that are

specific to an operating system (section 5 paragraph 1).

18.   As to claim 15, the apparatus of claim 13 is rejected for the reasons

above. Thrift et al. also disclose that the software interface isolates the core

system software from portions of the application program that are specific to an

operating environment (section 5 paragraph 1).

19.   Claims 16 – 30 are method claim equivalents to the apparatus claims 1 –

15. Therefore, claims 16 – 30 are rejected for the same reasons as claims 1 –

15, respectively.

Response to Arguments

20.   Applicant's arguments filed 20 January 2006 have been fully considered

but they are not persuasive.

21.   Applicant argues that "Thrift only discloses three actual layers"

(REMARKS page 4 ¶ 3) as opposed to the claimed 6 (not including the

application layer). However, Thrift discloses, "Above the set-top or TV hardware,

there is a TV-oriented RTOS for which various device drivers and a Java Virtual

Machine (JVM) have been implemented" (section 2 ¶ 1 lines 1 – 2). Although

Figure 1 only shows three layers (not including the application layer), the

disclosure clearly indicates that there are device drivers above the hardware,

implemented for the RTOS. These device drivers provide another layer of

abstraction, one that allows the RTOS to operate on the hardware. Based on

this and the rest of the reference, Thrift discloses a first layer (hardware); a

second layer (device driver); a third layer (interfaces must exist for the higher

levels of abstraction to operate using the drivers of the lower levels); a fourth

layer (JTV); said fourth layer also including a kernel abstraction function enabling

operation in different operating environments (JVM allows Java programs to be

platform independent); a fifth layer for middleware porting (necessary for the JTV

Player to be able to communicate in order to perform operations such as sending

tuner commands, section 3 #4); an OS kernel at the fourth and fifth layers

(RTOS); and a sixth layer (JTV Player).

22.   Applicant also argues "Thrift is devoid of the notion of operating in different

operating environments" (page 4 ¶ 3 of REMARKS). However, Thrift discloses

that a Java Virtual Machine (JVM) is included in the design. Hardware

independence is an integral part of the design of Java and Java Virtual

Machines. Therefore, specifying the use of a Java Virtual Machine results in the

design being hardware independent and enables operation in different operating

environments.

Conclusion

23.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of

time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire

THREE MONTHS from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory

action is not mailed until after the end of the THREE-MONTH shortened statutory

period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will

the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

24.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Nathan Price whose telephone number is

(571) 272-4196. The examiner can normally be reached on 7:30am - 4:00pm,

Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, William Thomson can be reached on (571) 272-3718.

The fax phone number for the organization where this application or proceeding

is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nathan Price

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER